



Amusement Ride-Related Injuries and Deaths in the United States

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Executive Summary

This report describes amusement ride-related fatalities and hospital emergency room-treated injuries. Injury data are presented for calendar years 1994 through 1998. Fatality data are presented for the period from 1 January 1987 through 30 June 1999. Hazard scenario data are presented for the period from 1 January 1990 through 30 June 1999.

- An estimated 9,200 hospital emergency room-treated injuries occurred in 1998, with about 2,100 involving mobile rides, 4,500 involving fixed rides, and 2,600 involving rides of unknown mobility status. There was an increasing trend in total injuries from 1994 through 1998.
- An estimated 0.8% of injuries in 1998 resulted in hospitalization. This compares to an overall hospitalization rate, across all products in NEISS, of about 4% in recent years.
- The total number of *non-occupational* amusement ride-related fatalities from 1987 through 1997 was an estimated 43 (95% confidence interval = 34 to 52), for an estimated annual average of 3.9 fatalities during that 11-year period.
- The total number of *occupational* amusement ride-related fatalities from 1987 through 1997 was an estimated 58 (95% confidence interval = 27 to 88), for an estimated annual average of 5.2 fatalities during that 11-year period.
- A hazard sketch summarizing U.S. Consumer Product Safety Commission (CPSC) investigations of amusement ride incidents from 1990 to 30 June 1999 revealed hazard scenarios associated with consumer behavior, operator behavior, mechanical failure, and design limitation.

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Amusement Ride-Related Injuries and Deaths

This report describes amusement ride-related fatalities and hospital emergency room-treated injuries. Injury data are presented for calendar years 1994 through 1998, and fatality data are presented for the period from 1 January 1987 through 30 June 1999. A hazard sketch is also presented summarizing U.S. Consumer Product Safety Commission (CPSC) investigations of reported amusement ride incidents from 1 January 1990 to 30 June 1999. This report replaces previous Division of Hazard Analysis reports summarizing amusement ride incidents [1,2,3].

Definition of Amusement Rides

Section 3(a)(1) of the Consumer Product Safety Act defines an *amusement ride* as:

...any mechanical device which carries or conveys passengers along, around, or over a fixed or restricted route within a defined area for the purpose of giving its passengers amusement, which is customarily controlled or directed by an individual who is employed for that purpose and who is not a consumer with respect to that device, and which is not permanently fixed to a site.

Although fixed-site rides are not included in Section 3(a)(1), incidents involving both mobile and fixed-site rides are included in the following analyses for comparison.

Amusement Ride-Related Injuries Reported in NEISS

Hospital emergency room data on non-occupational amusement ride-related injuries were obtained from CPSC's National Electronic Injury Surveillance System (NEISS) as follows. First, all records containing product code 1293 for the given calendar year were identified. Next, descriptive comments in the identified records were screened to eliminate injuries involving coin-operated rides or free-play attractions often found at restaurants or shopping centers, alpine and water slide amusements, wave machines, "moon walks," mechanical bulls, and playground equipment. Based on the descriptive comments, in-scope incidents were classified by *mobility* (mobile, fixed, or unknown).

Table 1 gives results for calendar years 1994 through 1998. An estimated 9,200 hospital emergency room-treated injuries occurred in 1998, with about 2,100 involving mobile rides, 4,500 involving fixed rides, and 2,600 involving rides of unknown mobility status. An estimated 0.8% of injuries in 1998 resulted in hospitalization. This rate compares to an overall hospitalization rate, across all products in NEISS, of about 4% in recent years.

NEISS data for 1997 and 1998 are based on a revised sampling frame that first went into effect in 1997. The new frame reflects changes that have occurred in the population of injuries treated at U.S. hospital emergency departments. Estimates for total injuries before 1997 have been adjusted to take these changes into account. These estimates are different

from the estimates given in previous CPSC publications.¹ The margin of error (ME) for each total estimate was derived from the estimated generalized variance [4] and 95% confidence level. The total estimate plus or minus the margin of error gives a 95% confidence interval, which is an interval with a high likelihood of containing the actual total number of injuries. The 95% confidence interval for the 1998 estimate of 9,200 injuries is $9,200 \pm 2,300 = 6,900$ to 11,500, the 95% confidence interval for the 1997 estimate of 8,700 injuries is $8,700 \pm 2,200 = 6,500$ to 10,900, and so on.

There was an increasing trend in estimated total injuries from 1994 through 1998, yielding a statistically significant Kendall's Tau ordinal correlation coefficient of 1.0, $p = .017$, 2-tailed [5]. There was also an increasing trend in estimated fixed-site amusement ride injuries, yielding a marginally significant Kendall Tau coefficient of 0.8, $p = .084$, 2-tailed. The greatest annual increase in estimated fixed-site injuries occurred in 1996. There was no trend in estimated mobile-site amusement ride injuries, $Tau = 0.0$.

Increases in estimated injuries per se do not imply an increased *risk* of injury, because the increase might merely reflect an increase in overall attendance or time spent on amusement rides. Estimates of the latter variables, not currently available, would provide the exposure information needed to assess risk and potential changes in risk.

Table 1
Estimated Non-Occupational Amusement Ride Injuries by Year and Mobility of Ride

Year	Fixed	Mobile	Unknown	Total	ME
1998	4,500	2,100	2,600	9,200	2,300
1997	4,600	2,200	1,900	8,700	2,200
1996	4,300	3,000	1,200	8,600	2,100
1995	2,800	2,900	1,900	7,700	2,000
1994	2,400	2,000	3,000	7,400	1,900

Note: Details may not sum to totals due to rounding. Margin of error (ME) derived from generalized variance and 95% confidence level. Source: U.S. Consumer Product Safety Commission.

¹ Each estimate prior to 1997 was multiplied by an adjustment factor. The factor was 1.0264 for 1994 and 1.0293 for both 1995 and 1996.

Amusement Ride-Related Fatalities Reported in DTHS and IPII

CPSC's death certificate (DTHS), injury or potential injury incident (IPII), and National Electronic Injury Surveillance System (NEISS) files were searched for records of fatalities involving amusement rides from 1 January 1987 through 30 June 1999. Incidents were excluded if they involved any of the following: bungee jumping, coin-operated rides or free-play attractions such as found at restaurants or shopping centers, alpine and water slide amusements, water wave machines, "moon walks," mechanical bulls, playground equipment, and snowmobiles. In addition, *occupational* incidents were distinguished from *non-occupational* incidents. Occupational incidents involved employees injured while setting up, repairing, testing, or operating amusement ride equipment. Non-occupational incidents involved non-employee victims injured while on, in, or around an in-scope amusement ride.

NEISS files recorded no amusement ride-related fatalities of any type from 1 January 1987 through 30 June 1999, but DTHS and IPII files recorded 28 occupational fatalities, 43 non-occupational fatalities, and 2 of unknown occupational status. These counts are not derived from probability samples and do not account for all incidents. Capture-recapture analyses treating the DTHS and IPII files as independent samples were used to estimate the total number of occupational and non-occupational amusement ride-related fatalities over the 11-year period from 1987 through 1997. The margin of error for a 95% confidence interval was computed for each estimate. Lags in fatality reporting preclude estimation of fatalities for the last full year.

The estimated number of *non-occupational* amusement ride-related fatalities from 1987 through 1997 was 43 (95% confidence interval = 34 to 52), for an annual average of 3.9 fatalities during that period. The estimated number of *occupational* amusement ride-related fatalities from 1987 through 1997 was 58 (95% confidence interval = 27 to 88), for an annual average of 5.2 fatalities during that period.

Non-occupational fatalities were classified by ride *type*, *location* (state), and ride *mobility*. *Mobility* refers to *fixed* rides as in amusement parks, *mobile* rides as in carnivals or fairs, or rides of *unknown* mobility status. From 1 January 1987 through 30 June 1999, there were 43 incidents including 28 *fixed* ride-related incidents (65.1%), 7 *mobile* ride-related incidents (16.3%), and 8 incidents involving *unknown* mobility status (18.6%). The number of documented non-occupational amusement ride fatalities is given below by type and mobility (**Table 2**), year and mobility (**Table 3**), and state and mobility (**Table 4**). **Appendix A** lists the 43 documented non-occupational fatality cases.

Table 2
Non-Occupational Amusement Ride-Related Fatalities from 1987 to 30 June 1999
by Ride Type and Mobility

Type of Ride	Fixed	Mobile	Unknown	Total
Bumper Boat (Water)	1	0	0	1
Capsule	1	0	0	1
Ferris Wheel	2	0	0	2
Log (Water) Ride	4	0	0	4
Roller Coaster	10	0	1	11
Sleigh Ride	1	0	0	1
Train	3	0	0	3
Whirling Ride	3	4	3	10
Unknown	3	3	4	10
Total	28	7	8	43

Source: U.S. Consumer Product Safety Commission. Data for 1998 and 1999 are incomplete due to reporting lags and the 30 June 1999 study date.

Table 3
Non-Occupational Amusement Ride-Related Fatalities by Year and Ride Mobility

Year	Fixed	Mobile	Unknown	Total
1999	2	0	0	2
1998	4	1	0	5
1997	3	0	1	4
1996	2	1	0	3
1995	2	1	0	3
1994	2	0	0	2
1993	1	1	2	4
1992	0	2	0	2
1991	3	0	0	3
1990	0	0	0	0
1989	3	0	0	3
1988	2	1	4	7
1987	4	0	1	5
Total	28	7	8	43

Source: U.S. Consumer Product Safety Commission. Data for 1998 and 1999 are incomplete due to reporting lags and the 30 June 1999 study date.

Table 4
 Non-Occupational Amusement Ride-Related Fatalities from 1987 to 30 June 1999
 by State and Ride Mobility

State	Fixed	Mobile	Unknown	Total
CA	4	0	0	4
CT	1	0	0	1
FL	0	2	2	4
GA	0	0	1	1
IA	0	0	1	1
IL	1	1	0	2
IN	1	0	0	1
MA	1	0	0	1
MD	0	0	1	1
MN	1	0	0	1
MO	1	0	0	1
NE	1	0	0	1
NJ	3	0	0	3
NM	0	1	0	1
NV	1	0	0	1
NY	4	1	0	5
OH	2	0	1	3
OK	0	0	1	1
PA	1	0	0	1
SC	2	0	0	2
TN	0	0	1	1
TX	2	2	0	4
UT	2	0	0	2
Total	28	7	8	43

Source: U.S. Consumer Product Safety Commission. Data for 1998 and 1999 are incomplete due to reporting lags and the 30 June 1999 study date.

Hazard Patterns Associated with Amusement Ride-Related Incidents

In-depth investigation (INDP) reports by CPSC staff from 1 January 1990 to 30 June 1999 were reviewed to analyze hazard patterns associated with amusement ride-related incidents. The reviewed cases are neither a probability sample nor complete account of all such incidents, so quantitative estimates of the proportions or total numbers of incidents involving the scenarios observed in these investigations are inappropriate. Nevertheless, the investigations reveal useful qualitative information about amusement ride-related hazard scenarios. Appendix B provides detailed information about each of 73 in-scope investigated incidents. Review of these 73 cases revealed hazard patterns involving consumer behaviors, operator behaviors, mechanical failures, and design limitation.

Consumer behaviors associated with amusement ride-related incidents included intentionally rocking cars, standing up, defeating safety restraints, sitting improperly (e.g., sideways or with feet above lap bar), holding a child above the safety restraint, and in one instance, a disembarking passenger intentionally restarting the ride by pressing the start button as other passengers were disembarking.

Operator behaviors associated with amusement ride-related incidents included abruptly stopping the ride (e.g., following an apparent mechanical failure), improperly assembling or maintaining the ride, and defeating safety equipment such as brakes and automatic overheat cutoff switches.

Mechanical failures associated with amusement ride-related incidents included missing safety pins, broken welds or structural components, exposed electrical wires, broken drive chains, malfunctioning lap bars or other safety restraints, failure to shutdown, improper detachment of cars, and improper detachment of structural components.

The *design limitation* hazard pattern was applied solely to a handpowered ride called the "Spaceball" in which the occupant is spun extremely rapidly. Five reports of eye hemorrhage, and one report of retinal tear and possible cerebral edema, were associated with this ride. In the latter case, the victim reported that the operator spun him longer and more vigorously than usual.

Several incidents involved combinations of the above hazard patterns; in one incident, for example, an operator abruptly stopped a ride upon hearing an unusual "thumping" sound due to a bent rail.

References

1. Cassidy S, *Deaths and Injuries Associated with Amusement Rides*, 21 May 1996, US Consumer Product Safety Commission, Washington, DC.
2. Morris CC. *Amusement Ride-Related Injuries and Deaths*, 10 Oct 1997, US Consumer Product Safety Commission, Washington, DC.
3. Morris CC *Amusement Ride-Related Injuries and Deaths*, 16 June 1998, US Consumer Product Safety Commission, Washington, DC.
4. Kessler E, Schroeder T. *National Electronic Injury Surveillance System (NEISS) Estimated Generalized Relative Sampling Errors*, Sep 1998, US Consumer Product Safety Commission, Washington, DC.
5. Gibbons JD. *Nonparametric Measures of Association*, 1993, Sage Publications, Newbury Park, CA.

Appendix A
Reported Non-Occupational Amusement Ride Fatalities from 1 Jan 1987 to 30 June 1999

Date	State	Age	Sex	Mobility	Ride Type	CPSC File(s)
06/11/99	NY	17	F	F	WHIRLING	INDP, IPII
03/21/99	TX	28	F	F	WATER	IPII
12/24/98	CA	33	M	F	WATER	IPII
09/07/98	CA	24	M	F	ROLLER COASTER	IPII
08/30/98	CA	1	M	F	TRAIN	INDP, IPII
08/01/98	MN	12	M	F	WATER	IPII
03/19/98	TX	15	F	M	WHIRLING	IPII, INDP
07/11/97	NJ	49	M	F	ROLLER COASTER	DTHS, INDP
05/23/97	OH	14	F	F	ROLLER COASTER	IPII
04/20/97	OK	14	M	U	ROLLER COASTER	DTHS
02/22/97	NV	3	F	F	WHIRLING	DTHS, IPII, INDP
08/19/96	NY	52	M	F	U	DTHS, INDP
08/16/96	IL	13	F	M	WHIRLING	DTHS, IPII, INDP
08/11/96	IN	57	F	F	TRAIN	DTHS, IPII, INDP
11/25/95	FL	2	F	M	U	DTHS, IPII, INDP
06/30/95	MO	14	F	F	ROLLER COASTER	DTHS, IPII, INDP
06/14/95	PA	77	M	F	ROLLER COASTER	DTHS, INDP
08/11/94	CT	6	M	F	WHIRLING	DTHS, IPII, INDP
07/09/94	SC	6	F	F	BUMPER BOAT	DTHS, IPII, INDP
09/11/93	TX	50	M	M	U	DTHS
06/10/93	IL	67	F	F	SLEIGH RIDE	DTHS
06/09/93	OH	0	F	U	U	IPII
04/13/93	MD	32	M	U	WHIRLING	IPII
08/09/92	NY	11	F	M	WHIRLING	IPII
07/25/92	NM	22	F	M	WHIRLING	DTHS, IPII, INDP
08/11/91	NY	14	M	F	FERRIS WHEEL	IPII
07/20/91	SC	17	M	F	FERRIS WHEEL	IPII
06/09/91	OH	0	F	F	CAPSULE	IPII
07/03/89	CA	9	M	F	LOG RIDE	DTHS, IPII, INDP
06/09/89	UT	13	F	F	ROLLER COASTER	DTHS
04/30/89	UT	6	M	F	ROLLER COASTER	DTHS, IPII, INDP
11/23/88	FL	17	F	U	WHIRLING	DTHS, IPII, INDP
08/23/88	NY	26	M	F	ROLLER COASTER	IPII, INDP
08/10/88	NE	30	M	F	U	DTHS, IPII, INDP
05/15/88	GA	4	F	U	U	IPII, INDP
05/15/88	TN	5	F	U	WHIRLING	DTHS
03/26/88	FL	15	M	M	U	DTHS, IPII, INDP
01/01/88	FL	0	F	U	U	IPII
09/28/87	IA	1	M	U	U	IPII
07/18/87	MA	18	M	F	TRAIN	DTHS, IPII, INDP
06/17/87	NJ	19	F	F	ROLLER COASTER	DTHS, IPII, INDP
05/16/87	NJ	33	M	F	ROLLER COASTER	IPII, INDP
04/19/87	TX	15	M	F	U	DTHS

Note: F=FIXED or FEMALE, M=MOBILE or MALE, U=UNKNOWN.

Source: U.S. Consumer Product Safety Commission Death Certificates File (DTHS), Injury or Potential Injury Incidents File (IPII), and In-Depth Investigations File (INDP).

Appendix B-Amusement Rides

Task No.	Date	State	City	Age	Sex	Fatal Narrative	
						Age	Sex
99061CNE5181	06/1/99	NY	NEW YORK	17	F	ONE DIED AND 8 WERE INJURED IN ACCIDENT INVOLVING HIMALAYA RIDE AT CONEY ISLAND PARK	
	03/21/99	TX	ARLINGTON	28	F	A 28 YEAR OLD FEMALE VICTIM DIED AND TEN OTHER INDIVIDUALS WERE INJURED WHEN A FIXED AMUSEMENT RIDES RAFT CAPSIZED. THE OFFICIAL	
	09/28/98	AR	PINE BLUFF	28	F	A 28 YEAR OLD FEMALE VICTIM INCURRED SEVERAL FRACTURES TO HER LEGS, BACK, AND PELVIC AREA WHEN SHE WAS THROWN FROM A CHAIR SEAT OF AN AMUSEMENT	
	09/05/98	MN	RIVER ROUGE	21	F	THE 21 YEAR OLD FEMALE VICTIM SUFFERED CONTUSIONS AND ABRAZIONS TO HER LOWER TRUNK AFTER RIDING IN AN AMUSEMENT RIDE AT A FAIR, WHICH	
	08/30/98	CA	MENDOTA	1	M	A 13 MONTH OLD MALE VICTIM STOOD UP ON HIS SEAT OF A KIDDIE TRAIN MOBILE AMUSEMENT RIDE AS THE RIDE OPERATORS STARTED THE TRAIN, AND	
	08/08/98	NJ	BERGENFIELD	6	M	SIX PEOPLE HAD TO BE RESCUED FROM A FERRIS WHEEL WHEN THE RIDE MALFUNCTIONED AND STRANDED RIDERS IN CARRIAGES OFF THE GROUND	
	09/20/CNE0226	IL	LANSING	43	F	AN AMUSEMENT RIDE ACCIDENT OCCURRED WHEN ONE CAR HIT THE RIDE STRUCTURE AND TURNED UPSIDE DOWN AND SEVERAL CARS THEN PILED INTO	
	07/18/98	TX	NOCONA	18	M	THE VICTIM, AN 18 YEAR OLD MALE, WAS EJECTED FROM HIS SEAT ON AN AMUSEMENT RIDE WHILE IT WAS IN FULL MOTION. HE VICTIM WAS STRUCK IN	
	05/13/98	MA	MARBLEHEAD	10	M	A 10 YEAR OLD MALE SUSTAINED SMALL SCRAPES TO HIS KNUCKLES AFTER FALLING TO THE GROUND WHEN THE OPERATOR OF AN AMUSEMENT RIDE	
	05/07/98	MA	WALPOLE	15	F	A 15 YEAR OLD FEMALE SUSTAINED A BROKEN RIGHT ANKLE AFTER BEING THROWN FROM AN AMUSEMENT RIDE WHEN THE SAFETY LAP BAR FAILED WHILE	
	04/25/98	TX	AUSTIN	15	F	THE VICTIM INCLUDED A 15 YEAR OLD FEMALE AND A NINE YEAR OLD MALE. THE NINE YEAR OLD MALE WAS RIDING AN AMUSEMENT RIDE WHEN THEY	
	03/19/98	FL	HOLLYWOOD	5	F	ON 11-15-97, A NON-FIXED SITE / MOBILE MECHANIZED SWING AMUSEMENT RIDE TOPPLED OVER onto THE GROUND DURING OPERATION AT A WEEKEND	
	11/15/97	TN	GATLINBURG	57	M	THE OWNER OF AN AMUSEMENT RIDE, A 57 YEAR OLD MALE, SUSTAINED A DISPLACED SHOULDER AND FRACTURES TO HIS RIGHT ARM WHEN HE GRABBED	
	10/01/97	NJ	JACKSON	49	M	A 49 YEAR OLD MALE ALLEGEDLY SUFFERED A HEAD INJURY ON AN AMUSEMENT PARK RIDE WHICH CAUSED INJURY TO THE BRAIN WITH NO EXTERNAL SIGNS	
	07/11/97	FL	PLANT CITY	10	M	AN 8 YEAR OLD MALE AND HIS 10 YEAR OLD BROTHER WERE RIDING AN AMUSEMENT RIDE AT A LOCAL FAIRGROUND. THEY WERE THROWN FROM THEIR	
	03/01/97	NV	LAS VEGAS	3	F	A 3 YEAR OLD GIRL WAS RIDING IN A FIXED, ROTATING AMUSEMENT PARK RIDE. SHE WAS IN A CAR WITH A SIX YEAR OLD CHILD. THE SINGLE LAP	
	02/29/97	FL	TAMPA	30	M	TRIPLE VICTIMS INCLUDING A 15 YEAR OLD FEMALE, A 16 YEAR OLD FEMALE AND A NINE YEAR OLD MALE WERE INJURED WHEN THEY WERE THROWN FROM HIS SEAT ON THE MOBILE RIDE AT THE STATE FAIR GROUND	
	09/19/96	MA	WEYMOUTH	8	F	WHILE RIDING ON A FIXED SITE AMUSEMENT RIDE, AN 8 YEAR OLD FEMALE HAD HER SCALP RIPPED OFF WHEN HER HAIR FELL INTO THE MOTOR ON THE BACK	
	08/22/96	KS	PAOLA	5	M	THE INVESTIGATED INCIDENT INVOLVED A KIDDIE MOBILE AMUSEMENT RIDE. A FIVE YEAR OLD BOY WAS SITTING IN THE FRONT SEAT OF ONE OF THE RIDES	
	06/08/96	NY	VERNON	52	M	THIS INVESTIGATION REVEALED THAT, ON 8/6/96, AT APPROXIMATELY 7:15 PM, A 13 YEAR OLD DEVELOPMENTALLY DISABLED GIRL WAS WITH A	
	06/01/96	IL	SPRINGFIELD	13	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	05/21/96	IN	THORNTOWN	57	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/11/96	MA	AGAWAM	10	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	01/12/95	FL	PALATKA	2	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	06/22/95	IL	EVERGREEN PARK	18	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/11/95	PA	ALLEN TOWN	77	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	03/11/95	NY	ROCHESTER	6	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/08/95	MD	TIMONIUM	4	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/08/94	CA	SACRAMENTO	4	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/27/94	IL	MIDDLEBURY	6	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/02/94	CY	CITY	6	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/11/94	CT	MIDDLEBURY	6	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/26/94	PA	WEST PARK	12	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/14/94	WI	RIVER FALLS	9	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/10/94	MI	NEW BUFFALO	10	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/07/94	OH	GLOUCESTER	8	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	09/09/93	CA	UKIAH	0	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/15/93	WV	LEWISBURG	29	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/13/93	WV	LEWISBURG	21	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/09/93	MO	SPRINGFIELD	9	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/08/93	MI	HARRISON	19	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/13/93	NJ	VINELAND	0	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	06/18/93	LA	NEW ORLEANS	6	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/15/93	PA	MASON TOWNSHIP	15	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/13/93	AR	CONWAY	13	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/09/93	PA	PHILADELPHIA	13	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/07/93	TX	HOUSTON	33	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	04/06/93	VA	RICHMOND	22	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/04/93	LA	TAOS	27	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/25/92	CO	THORNTON	17	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/14/92	OH	BRUNSWICK	22	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/03/92	ME	BATH	11	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/02/92	AZ	PHOENIX	10	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	09/02/92	CA	EDINBURG	10	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/26/92	IL	EDINBURG	26	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	09/03/92	OK	LAKE HAVASU CI	3	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	09/01/92	MO	OKLAHOMA CITY	15	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/20/92	MO	SELDOMIA	12	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/19/92	OH	COLUMBIA	13	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/22/92	IL	MIDLOTHIAN	13	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/17/92	IL	LESOURDAVILLE	15	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/16/92	IA	AVOCIA	15	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/15/92	IL	PEORIA	7	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/07/92	IL	BELoit	12	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/01/92	WI	MERRILL	27	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	06/09/92	IN	MONROVIA	20	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	05/09/92	FL	KISSIMMEE	12	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	03/22/92	MI	ST PAUL	16	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/27/91	MN	ST. PAUL	15	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/26/91	PA	SMYTHPORT	14	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/17/91	WI	MILWAUKEE	15	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	08/03/91	MO	TROY	18	M	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	
	07/11/91	NJ	TRENTON	3	F	Y THREE VICTIMS INCLUDING A 15 YEAR OLD FEMALE SUSTAINED SEVERE HEAD INJURIES WHEN TWO CARS OF A FIXED SITE	

Appendix B-Amusement Rides

Narrative (continued)

Task No	Narrative (continued)
990614CNE5191	
990321HWE7187	
981021CCC3028	
990205CEP903	OFFICIALS FEEL THAT THE RIDE'S RESTRAINT SYSTEM DID NOT ADEQUATELY RESTRAIN THE VICTIM. THE RIDE HAS BEEN BANNED BY THE STATE PENDING
980902CWE5016	
980902CCN0339	NEARBY HOSPITAL. THE VICTIM IS NOW IN REHABILITATION TO RECOVER HIS HEALTH
980720CWE7164	
980601CAA0468	
980708CME5183	
980320CWE7133	OF DEATH OF THE 15 YEAR OLD VICTIM WAS SEVERE HEAD INJURIES
971117CNE5020	3F, 2F) ON THE RIDE SUFFERED INJURIES RANGING FROM NECK / BACK STRAINS, CONTUSIONS TO ARMS / LEGS, TO ONE VICTIM WHO SUFFERED A
981210CCN0075	LOST CONTROL OF THE 'BICYCLE' AND BEGAN TO TRAVEL BACKWARDS ON THE AMUSEMENT RIDE TRACK. THE CUSTOMER SUSTAINED ABRASIONS TO LOWER
980204HCC0018	SUBDORAL HEMATOMA.
970304CNE5090	SUSTAINED A BROKEN ANKLE. THE OTHER A BROKEN LEG
970409HCC3090	OPERATOR HAD WARNED HER TO STAY SEATED THE VICTIM APPARENTLY FELL UNDER THE CAR AND WAS DRAGGED FOR 3/4 OF A REVOLUTION BEFORE THE
970220CNE5083	WAS EJECTED, CAUSING HIS FOOT TO CONTACT THE UPRIGHT SUPPORT ON THE RIDE BOARDWALK
961016HCC5702	
960828CCN1755	CAPSULE, DROPPED OF FELL ABOUT 5.7 FEET TO THE GROUND BEFORE THE OPERATOR COULD STOP THE RIDE, THE VICTIM, SEAT RESTRAINED IN THE
970328HCC1056	PENDULUM, IN OPPOSITE DIRECTIONS AS THE RIDE WAS OPERATING, THE 13 YEAR OLD GIRL PANICKED, AND SHE WIGGLED-OUT FROM UNDER HER
960819CCN1702	
960819HCC5354	
960720HCC5398	
940921CNE5190	BY A FRACTURED RAIL OF THIS RIDE
95112BCA1197	INJURIES ASSOCIATED WITH THE FALL. THE RIDE WAS BEING OPERATED ON A LOCAL FAIRGROUND SITE AT THE TIME OF THE INCIDENT
950613CCN2264	WHEEL AT A CHURCH CARNIVAL WAS ROTATING IN A COUNTERCLOCKWISE DIRECTION WHEN IT STRUCK A METAL RACKING SUPPORT TOWER ON THE
970424HCC1159	HEMORRHAGE. THE VICTIM WAS PLACED ON LIFE SUPPORT AND DIED WITHIN 24 HOURS OF THE REMOVAL OF LIFE SUPPORT
950527CCC1679	CAUSING IT TO BE LIFTED OFF THE GROUND TO A VERTICAL POSITION. THE CHILDREN AND THE RIDE WERE CATAULPTED INTO A NEARBY TREE
940829CAA1716	FALL FROM THE MAIN FRAME OF THE RIDE. NEITHER BOY RECEIVED PERMANENT INJURIES HOWEVER ONE RECEIVED A BROKEN NOSE AND THE OTHER FACIAL
940830CWE5024	
940920HCC5398	
940921CCC1758	ABRUPT STOP
940817CCN2199	THE LAP BAR TO RELEASE. BOTH VICTIMS WERE TREATED AND RELEASED FROM A LOCAL HOSPITAL
940818CCN2210	TO STAND IN THE CAR AFTER HE (OPERATOR) STOPPED THE RIDE. WHEN THE VICTIM STOOD IN THE CAR THE SECOND TIME, THE OPERATOR ATTEMPTED TO
930907CEP9010	EMERGENCY ROOM. HE WAS OBSERVED FOR AN (1) HOUR, AFTERWARD HE WAS TREATED & RELEASED WITHOUT ANY FURTHER MEDICAL TREATMENT
930927CCC3631	
930916CCC1557	SINCE THE ACCIDENT THE VICTIM IS UNDERGOING TREATMENT TO DETERMINE THE CAUSE OF AN EQUILIBRUM PROBLEM RESULTING FROM THE ACCIDENT THE
931206CNE5027	DOWN AT HIS TIME. THE RIDE WAS IN REVERSE WHEN THE ACCIDENT OCCURRED. THE RIDE WILL NOW ONLY OPERATE IN THE FORWARD DIRECTION
930829CBB2486	CAUSED THE STEEL RIN TO DROP, AND THE ARM & CAR FELL TO THE GROUND. THE 39 YEAR OLD VICTIM SUFFERED A FRACTURED NECK & BACK. SHE WAS
930825CCN2280	HOOLDING THE POD OF CARS SENDING IT TO THE GROUND. THE OPERATOR WAS CITED FOR FAILURE TO PROPERLY ASSEMBLE THE RIDE
930607CWE7048	
930519CNE5140	THE RIDE'S OUTER WALL. THE VICTIM RECOVERED FROM HER FRACTURE INJURIES AND IS UNDERGOING PHYSICAL THERAPY FOR THE NERVE INJURY. AN
930915CWE7048	THE ELECTRICAL WIRE OF THE LIGHT SET. SHE WAS TAKEN TO ER OF NEARBY HOSPITAL AND TREATED FOR 2ND DEGREE BURN ON HIS HAND
930413CNE5115	
930304CWE7030	OPERATOR ERROR CONTRIBUTED TO THIS INCIDENT
930616CCC1534	NASEOUS AFTER THE RIDE. WAS SEEN AT A LOCAL MEDICAL FACILITY AND RELEASED WITH NO INJURY DETERMINED
920730CWE6001	BY A RAILED WALKWAY. THE VICTIMS WERE DRAGGED ALONG THIS WALKWAY STRIKING THEIR HEADS
921013CWE5008	
940711CCC2639	EXAMINED AND RELEASED
920810CCC1539	
911013CWE5025	
911013CWE5024	WERE BEING HELD ON AN ANTI-ROLL BACK SECTION OF THE TRACK. ALL 14 PASSENGERS ON THE CARS WERE SENT TO THE HOSPITAL FOR TREATMENT OF
910920CCN2446	
911009CWE5008	
930813CCC2490	STATE OFFICIALS REVEALED THE IMPROPER INSTALLATION OF A MECHANICAL DEVICE CAUSED THE RIDE TO FAIL AND RESULT IN THE INCIDENT.
910821CCN1992	RECEIVED MINOR INJURIES. A RIDE PANEL WHERE THE THREE MOST SERIOUSLY HURT VICTIMS WERE RIDING CAME OFF THE RIDE WHEN A FLOORPIN AND FLOOR
910828CCN2063	
910723CCN1752	TIE VICTIMS WERE RIDING TO FALL TO THE GROUND
910722CEP9012	
910729CBB2632	APPARENTLY STRUCK HIS ANKLE RESULTING IN THE FRACTURE.
910812CCN1901	HOSPITAL EMERGENCY ROOM WHERE THEY WERE TREATED AND RELEASED. STATE OF WI IS INVESTIGATING AND WILL MONITOR REPAIRS BY THE RIDE OWNER
910705CCN1556	
910705CNE5178I	
910307CNE5107	THE MISHAP THAT SURROUNDS THE RIDE. ONE PASSENGER SUFFERED A CUT LIP (MINOR).
900806CNE1342	ALMOST 40 MINUTES UNTIL THE RIDE WAS MANUALLY LOWERED. THERE WERE 23 PEOPLE TREATED FOR NAUSEA, INCLUDING TWO THAT WENT TO A HOSPITAL AND
900807CCN2109	THE GIRL DID NOT SEEK ANY MEDICAL TREATMENT.
900817CBA1628	HANDLE-bars TIGHTLY HELD DOWN THE RIDE STARTED UP AND ON THE 3RD TIME AROUND CAME LOOSE. THE PIN SECURING IT TO THE
900808CEP906	DOWNTOWARDS. THE EIGHTEEN YEAR OLD SUFFERED A WHIP-LASH OF HIS NECK.
900803CCN2193	ABOVE THE RESTRAINING BAR SO SHE COULD SEE BETTER. AT THE SAME TIME, THE CAR BEGAN TO SPIN EJECTING THE VICTIM TO THE GROUND. SHE WAS
900607CNE5194	

Appendix B-Amusement Rides

Narrative (continued)

Task No

990614CNE5191	
990322HWE187	
981022CCC3028	
990305CEP9003	DEVELOPMENT OF A MORE ADEQUATE RESTRAINT SYSTEM
980902CWE016	
980924HCC0726	
980720CCN0339	
980609CWE184	
980601CAA0468	
980708CNE5183	
980320CWE133	BROKEN KNUCKLE ON HER LEFT HAND WHILE OTHERS WERE NOT INJURED
971117CNE5020	
98120CCN0075	LEGS THE OWNER FEELS THE RIDE IS HAZARDOUS
980204HCC0018	
970304CNE5090	
970404HCC3090	RIDE COULD BE STOPPED SHE SUFFERED FATAL HEAD INJURIES
970220CNE5083	
961016HCC5702	PLATFORM AT THE NORTH END OF THE FERRIS WHEEL THE CAR THEN CONTINUED MOVING IN A COUNTERCLOCKWISE DIRECTION, THE RIDE OPERATOR
960828CCN1755	SPACE CAPSULE, WAS DRAGGED ALONG THE GROUND FOR 15-20 FEET NO SERIOUS INJURY
970424HCC1159	
950322CCC1679	
960819CCN1702	SHOULDER RESTRAINT, & SHE THEN GOT OUT OF THE CAR THROUGH A HOLE IN THE CAR'S TOP THE GIRL THEN FELL FROM THE CAR, & SHE LANDED
960819HCC3534	
960731CNE5190	
95112KCA1197	
950821CCC2684	
970424HCC1159	
950322CCC1679	
940829CAA176	LACERATIONS A CHECK OF THE RIDE INDICATED THAT A PIN HAD BEEN REMOVED FROM THE "TUB" WHICH CONNECTED IT TO THE FRAME
940830CWE024	
960730HCC3598	
940922CCC1758	
940803CNE5177	
940817CCN2199	STOP THE RIDE AGAIN, BUT COULD NOT DO SO THE VICTIM WAS THROWN FROM THE RIDE.
940818CCN2210	
940819CCN2280	
930825CCN2280	
930729CCC1483	ACCIDENT OCCURRED AT A STATE FAIR
930607CWE1048	
930519CNE5140	INSPECTION OF THE RIDE AFTER THE ACCIDENT BY A STATE INSPECTOR DETERMINED THE ACCIDENT WAS NOT THE RESULT OF A MECHANICAL OPERATION
930915CWE1048	
930414CNE3115	RELEASED AFTER THE TREATMENT
930304CWE1030	
930826CCC1534	
920730CWE0001	
921013CWE3008	
940721CCC2639	
920819CCC1559	
911031CWE925	
911031CWE924	MINOR INJURIES
910930CCN2446	
911009CWE3008	
930812CCC2490	
910812CCN1992	PLATE BROKE
910828CCN2063	
910712CCN1752	
910801CCN1810	
910707CNE3107	
900830CCN2342	
900827CNE3309	WERE RELEASED
900827CBA1628	
900808CEP9006	FRAME OF THE RIDE CAME OUT THE RIDE WAS STOPPED AND THE RIDERS INCLUDING THE VICTIM WERE OFFERED MEDICAL TREATMENT, BUT DECLINED
900809CCN193	
900007CNE194	TAKEN TO THE HOSPITAL UNCONSCIOUS BUT REPORTEDLY HAS GAINED CONSCIOUSNESS AND IS RECOVERING

Appendix B-Amusement Rides

Table No. Narrative (continued)

990814CNE5191	
990322HWE7187	
981022CCC3028	
990205CEP003	
980920CNE5016	
980924HCC0726	
980720CCN0339	
980609CWE7164	
980601CAA0468	
980708CNE5183	
980320CWE7133	
971117CNE5020	
981210CCN0075	
980204HCC0018	
970304CNE5090	
970409HCC3090	
970220CNE5083	
961016HCC5702	
960828CCN1755	
970328HCC1026	
960819CCN1702	
960819HCC5534	
960731CNE5190	
951128CAA1197	
950623CCN2264	
970424HCC1159	
950522CCC1679	
940829CAA1716	
940830CWE3024	
960730HCC5398	
940922CCC1758	
940803CNE5177	
940817CCN2199	
940818CCN2210	
930917CEP0010	
930927CCC3431	
930916CCC1557	
931206CNE5027	
930809CB2486	
930823CCN2280	
930729CCCC1483	
930607CWE048	
930519CNE5140	
930815CWE048	
930413CNE5115	
930304CWE030	
930826CCCC1534	
920730CWE001	
921013CWE3008	
930812CCC2490	
910812CCN1992	
910828CCN2063	
911031CWE3024	
910923CCC2781	
910801CCN1810	
910709CWE3008	
910702CEP0012	
910729CB2632	
910812CCN1901	
910701CCN1556	
910923CCC2781	
910807CNE3107	
900830CCN2342	
900821CCN2309	
900827CBA1628	
900808CEP006	VICTIM WENT TO HOSPITAL AT HOME THE NEXT DAY
900803ACCN2193	
900807CNE3194	

Appendix B-Amusement Rides

Task No

Narrative (continued)

99061ACNE3191	
990322HWE7187	
981021CCC3028	
990205CEP9003	
980902CWE5016	
980914HCC0726	
980720CCCN0339	
980609CWE7164	
980601CAA0468	
980708CNE3183	
980320CWE7133	
971117CNE5020	
981210CCCN075	
980204HCCD018	
970204CNE3090	
970409HCC3090	
970220CNE5083	
961016HCC5702	
960822CCN1755	
970212HCC1036	
960819CCN1702	
960219HCC1679	
940822CCCA1716	
960712ACNE3190	
951112CAA1197	
950623CCN264	
970421HCC1159	
930212CCC1679	
940818RCN210	
940819CWE5024	
960730HCC3398	
940529CCC1758	
940804CNE5177	
940817CCN2199	
940818RCN2116	
930917CENP9010	
930527CCC1531	
930916CCC1557	
931019CNE5140	
910915CWE7048	
930809CB2486	
930821CCCN2280	
930729CCC1483	
930607CWE7048	
930919CNE5140	
910915CWE7048	
930813CNE4115	
930304CWE7030	
930729CCC1534	
920730CWE6001	
921013CWE5008	
940721CCCC2490	
920810CCC1559	
911013ICCN1901	
910829CCN2063	
911013CWE5025	
910721CCCN1752	
910907CNE5107	
910809CCN2446	
911009CWE5008	
910722CENP9012	
910729CBB7632	
910812CCN1901	
910701CCCN1901	
910925CCC2781	
910807CNE5107	
900830CCN2342	
900832CCN2309	
900612CBA1628	
900808CEP9006	
900903CCN2193	
900607CNE5194	

SUPPORT BAR. THE CAR, WHICH BROKE FREE FROM ITS REAR CONNECTION, THEN DAMAGED THE CAR BELOW IT AS IT STRUCK THE CAR, AND THE TWO CARS

PRONOUNCED DECEASED



United States
CONSUMER PRODUCT SAFETY COMMISSION
Washington, DC 20207

MEMORANDUM

DATE: JUL 15 1999

TO: James A. DeMarco, Compliance Officer *JAD*

Through: Ronald Medford, Assistant Executive Director *RM*
Office of Hazard Identification and Reduction

Susan Ahmed, Ph.D., Associate Executive Director, *SA*
Directorate for Epidemiology

FROM: C. Craig Morris, Ph.D., Mathematical Statistician, EPHA *CCM*

SUBJECT: Amusement ride-related injuries and deaths in the United States

Per your PSA request (0350.99), attached is the 1999 report on amusement ride-related injuries and deaths in the U.S.

CPSA 6 (b)(1) Cleared

7/19/99 SP
No Mfrs/PrvLbrs or

Products Identified

Excepted by _____

Firms Notified,

Comments Processed.